

## SEQUENCE LISTING

<110> Keating, Mark T.  
Splawski, Igor

<120> MUTATIONS IN AND GENOMIC STRUCTURE OF HERG - A LONG QT  
SYNDROME GENE

<130> 2323-136

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<150> 09/122,847

<151> 1998-07-27

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<170> PatentIn Ver. 2.0

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| Leu Val Ile Tyr Thr Ala Val Phe Thr Pro Tyr Ser Ala Ala Phe Leu |      |
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| Cys Gln Pro Leu Ala Val Val Asp Leu Ile Val Asp Ile Met Phe Ile |      |
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| Glu Val Val Ser His Pro Gly Arg Ile Ala Val His Tyr Phe Lys Gly |      |
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| tac ggc gcg gcc gtg ctg ttc ttg ctc atg tgc acc ttt gcg ctc atc | 1680 |
| Tyr Gly Ala Ala Val Leu Phe Leu Leu Met Cys Thr Phe Ala Leu Ile |      |
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| gcg cac tgg cta gcc tgc atc tgg tac gcc atc gcc aac atg gag cag | 1728 |
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| cca cac atg gac tca cgc atc ggc tgg ctg cac aac ctg ggc gac cag | 1776 |
| Pro His Met Asp Ser Arg Ile Gly Trp Leu His Asn Leu Gly Asp Gln |      |
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| ata ggc aaa ccc tac aac agc agc ggc ctg ggc gcc ccc tcc atc aag | 1824 |
| Ile Gly Lys Pro Tyr Asn Ser Ser Gly Leu Gly Gly Pro Ser Ile Lys |      |
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| Asp Lys Tyr Val Thr Ala Leu Tyr Phe Thr Phe Ser Ser Leu Thr Ser |      |
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| tcc<br>Ser        | atc<br>Ile        | tgc<br>Cys        | gtc<br>Val        | atg<br>Met<br>645 | ctc<br>Leu        | att<br>Ile        | ggc<br>Gly        | tcc<br>Ser        | ctc<br>Leu<br>650 | atg<br>Met        | tat<br>Tyr        | gct<br>Ala        | agc<br>Ser        | atc<br>Ile<br>655 | ttc<br>Phe        | 1968 |
| ggc<br>Gly        | aac<br>Asn        | gtg<br>Val        | tgc<br>Ser<br>660 | gcc<br>Ala        | atc<br>Ile        | atc<br>Ile        | cag<br>Gln        | cgg<br>Arg<br>665 | ctg<br>Leu        | tac<br>Tyr        | tgc<br>Ser        | ggc<br>Gly        | aca<br>Thr<br>670 | gcc<br>Ala        | cgc<br>Arg        | 2016 |
| tac<br>Tyr        | cac<br>His        | aca<br>Thr<br>675 | cag<br>Gln        | atg<br>Met        | ctg<br>Leu        | cgg<br>Arg        | gtg<br>Val<br>680 | cgg<br>Arg        | gag<br>Glu        | ttc<br>Phe        | atc<br>Ile        | cgc<br>Arg<br>685 | ttc<br>Phe        | cac<br>His        | cag<br>Gln        | 2064 |
| atc<br>Ile        | ccc<br>Pro<br>690 | aat<br>Asn        | ccc<br>Pro        | ctg<br>Leu        | cgc<br>Arg        | cag<br>Gln<br>695 | cgc<br>Arg        | ctc<br>Leu        | gag<br>Glu        | gag<br>Glu        | tac<br>Tyr<br>700 | ttc<br>Phe        | cag<br>Gln        | cac<br>His        | gcc<br>Ala        | 2112 |
| tgg<br>Trp<br>705 | tcc<br>Ser        | tac<br>Tyr        | acc<br>Thr        | aac<br>Asn        | ggc<br>Gly<br>710 | atc<br>Ile        | gac<br>Asp        | atg<br>Met        | aac<br>Asn        | gcg<br>Ala<br>715 | gtg<br>Val        | ctg<br>Leu        | aag<br>Lys        | ggc<br>Gly        | ttc<br>Phe<br>720 | 2160 |
| cct<br>Pro        | gag<br>Glu        | tgc<br>Cys        | ctg<br>Leu        | cag<br>Gln<br>725 | gct<br>Ala        | gac<br>Asp        | atc<br>Ile        | tgc<br>Cys        | ctg<br>Leu<br>730 | cac<br>His        | ctg<br>Leu        | aac<br>Asn        | cgc<br>Arg        | tca<br>Ser<br>735 | ctg<br>Leu        | 2208 |
| ctg<br>Leu        | cag<br>Gln        | cac<br>His        | tgc<br>Cys<br>740 | aaa<br>Lys        | ccc<br>Pro        | ttc<br>Phe        | cga<br>Arg        | ggg<br>Gly<br>745 | gcc<br>Ala        | acc<br>Thr        | aag<br>Lys        | ggc<br>Gly        | tgc<br>Cys<br>750 | ctt<br>Leu        | cgg<br>Arg        | 2256 |
| gcc<br>Ala        | ctg<br>Leu        | gcc<br>Ala<br>755 | atg<br>Met        | aag<br>Lys        | ttc<br>Phe        | aag<br>Lys        | acc<br>Thr<br>760 | aca<br>Thr        | cat<br>His        | gca<br>Ala        | ccg<br>Pro        | cca<br>Pro<br>765 | ggg<br>Gly        | gac<br>Asp        | aca<br>Thr        | 2304 |
| ctg<br>Leu        | gtg<br>Val<br>770 | cat<br>His        | gct<br>Ala        | ggg<br>Gly        | gac<br>Asp        | ctg<br>Leu<br>775 | ctc<br>Leu        | acc<br>Thr        | gcc<br>Ala        | ctg<br>Leu        | tac<br>Tyr<br>780 | ttc<br>Phe        | atc<br>Ile        | tcc<br>Ser        | cgg<br>Arg        | 2352 |
| ggc<br>Gly<br>785 | tcc<br>Ser        | atc<br>Ile        | gag<br>Glu        | atc<br>Ile        | ctg<br>Leu<br>790 | cgg<br>Arg        | ggc<br>Gly        | gac<br>Asp        | gtc<br>Val        | gtc<br>Val<br>795 | gtg<br>Val        | gcc<br>Ala        | atc<br>Ile        | ctg<br>Leu        | ggg<br>Gly<br>800 | 2400 |
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| aag<br>Lys        | tgc<br>Ser        | aac<br>Asn        | ggg<br>Gly<br>820 | gat<br>Asp        | gtg<br>Val        | cgg<br>Arg        | gcc<br>Ala        | ctc<br>Leu<br>825 | acc<br>Thr        | tac<br>Tyr        | tgt<br>Cys        | gac<br>Asp        | cta<br>Leu<br>830 | cac<br>His        | aag<br>Lys        | 2496 |
| atc<br>Ile        | cat<br>His<br>835 | cgg<br>Arg        | gac<br>Asp        | gac<br>Asp        | ctg<br>Leu        | ctg<br>Leu        | gag<br>Glu<br>840 | gtg<br>Val        | ctg<br>Leu        | gac<br>Asp        | atg<br>Met        | tac<br>Tyr<br>845 | cct<br>Pro        | gag<br>Glu        | ttc<br>Phe        | 2544 |
| tcc<br>Ser        | gac<br>Asp<br>850 | cac<br>His        | ttc<br>Phe        | tgg<br>Trp        | tcc<br>Ser        | agc<br>Ser<br>855 | ctg<br>Leu        | gag<br>Glu        | atc<br>Ile        | acc<br>Thr        | ttc<br>Phe<br>860 | aac<br>Asn        | ctg<br>Leu        | cga<br>Arg        | gat<br>Asp        | 2592 |
| acc<br>Thr<br>865 | aac<br>Asn        | atg<br>Met        | atc<br>Ile        | ccg<br>Pro        | ggc<br>Gly<br>870 | tcc<br>Ser        | ccc<br>Pro        | ggc<br>Gly        | agt<br>Ser        | acg<br>Thr<br>875 | gag<br>Glu        | tta<br>Leu        | gag<br>Glu        | ggg<br>Gly        | ggc<br>Gly<br>880 | 2640 |

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| 1     |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |
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|       |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Asn   | Ala | Arg | Val | Glu | Asn | Cys | Ala | Val | Ile | Tyr | Cys | Asn | Asp | Gly | Phe |  |  |
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|       | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |
| Thr   | Cys | Asp | Phe | Leu | His | Gly | Pro | Arg | Thr | Gln | Arg | Arg | Ala | Ala | Ala |  |  |
| 65    |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |
| Gln   | Ile | Ala | Gln | Ala | Leu | Leu | Gly | Ala | Glu | Glu | Arg | Lys | Val | Glu | Ile |  |  |
|       |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ala   | Phe | Tyr | Arg | Lys | Asp | Gly | Ser | Cys | Phe | Leu | Cys | Leu | Val | Asp | Val |  |  |
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|       |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
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|       | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
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| 145   |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Lys   | Thr | Phe | Arg | Leu | Lys | Leu | Pro | Ala | Leu | Leu | Ala | Leu | Thr | Ala | Arg |  |  |
|       |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |
| Glu   | Ser | Ser | Val | Arg | Ser | Gly | Gly | Ala | Gly | Gly | Ala | Gly | Ala | Pro | Gly |  |  |
|       |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |
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|       |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |
| Ser   | Leu | Ala | Leu | Asp | Glu | Val | Thr | Ala | Met | Asp | Asn | His | Val | Ala | Gly |  |  |
|       | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |
| Leu   | Gly | Pro | Ala | Glu | Glu | Arg | Arg | Ala | Leu | Val | Gly | Pro | Gly | Ser | Pro |  |  |
| 225   |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |

Pro Arg Ser Ala Pro Gly Gln Leu Pro Ser Pro Arg Ala His Ser Leu  
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 Met Pro Val Arg Arg Gly His Val Ala Pro Gln Asn Thr Phe  
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 Leu Asp Thr Ile Ile Arg Lys Phe Glu Gly Gln Ser Arg Lys Phe Ile  
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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
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| Thr | Ser | Asp | Ser | Asp | Leu | Val | Arg | Tyr | Arg | Thr | Ile | Ser | Lys | Ile | Pro |      |
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| Gln | Ile | Thr | Leu | Asn | Phe | Val | Asp | Leu | Lys | Gly | Asp | Pro | Phe | Leu | Ala |      |
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| Ser | Pro | Thr | Ser | Asp | Arg | Glu | Ile | Ile | Ala | Pro | Lys | Ile | Lys | Glu | Arg |      |
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| Thr | His | Asn | Val | Thr | Glu | Lys | Val | Thr | Gln | Val | Leu | Ser | Leu | Gly | Ala |      |
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| Asp | Val | Leu | Pro | Glu | Tyr | Lys | Leu | Gln | Ala | Pro | Arg | Ile | His | Arg | Trp |      |
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| Thr | Ile | Leu | His | Tyr | Ser | Pro | Phe | Lys | Ala | Val | Trp | Asp | Trp | Leu | Ile |      |
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| Leu | Leu | Leu | Val | Ile | Tyr | Thr | Ala | Val | Phe | Thr | Pro | Tyr | Ser | Ala | Ala |      |
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| Phe | Leu | Leu | Lys | Glu | Thr | Glu | Glu | Gly | Pro | Pro | Ala | Thr | Glu | Cys | Gly |      |
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| Ala Arg Leu Leu Arg Leu Val Arg Val Ala Arg Lys Leu Asp Arg Tyr |      |
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| Leu Ile Ala His Trp Leu Ala Cys Ile Trp Tyr Ala Ile Gly Asn Met |      |
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| gag cag cca cac atg gac tca cgc atc gcc tgg ctg cac aac ctg gcc | 1836 |
| Glu Gln Pro His Met Asp Ser Arg Ile Gly Trp Leu His Asn Leu Gly |      |
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| gac cag ata ggc aaa ccc tac aac agc agc gcc ctg gcc gcc ccc tcc | 1884 |
| Asp Gln Ile Gly Lys Pro Tyr Asn Ser Ser Gly Leu Gly Gly Pro Ser |      |
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| His Gln Ile Pro Asn Pro Leu Arg Gln Arg Leu Glu Glu Tyr Phe Gln |      |
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| His Ala Trp Ser Tyr Thr Asn Gly Ile Asp Met Asn Ala Val Leu Lys |      |
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| ggc ttc cct gag tgc ctg cag gct gac atc tgc ctg cac ctg aac cgc | 2268 |
| Gly Phe Pro Glu Cys Leu Gln Ala Asp Ile Cys Leu His Leu Asn Arg |      |
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| tca ctg ctg cag cac tgc aaa ccc ttc cga ggg gcc acc aag gcc tgc | 2316 |
| Ser Leu Leu Gln His Cys Lys Pro Phe Arg Gly Ala Thr Lys Gly Cys |      |
| 735 740 745 750   |      |

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
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| Pro | Gly | Lys | Ser | Asn | Gly | Asp | Val | Arg | Ala | Leu | Thr | Tyr | Cys | Asp | Leu |      |
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| cac | aag | atc | cat | cgg | gac | gac | ctg | ctg | gag | gtg | ctg | gac | atg | tac | cct | 2604 |
| His | Lys | Ile | His | Arg | Asp | Asp | Leu | Leu | Glu | Val | Leu | Asp | Met | Tyr | Pro |      |
|     |     |     |     | 835 |     |     |     |     | 840 |     |     |     |     | 845 |     |      |
| gag | ttc | tcc | gac | cac | ttc | tgg | tcc | agc | ctg | gag | atc | acc | ttc | aac | ctg | 2652 |
| Glu | Phe | Ser | Asp | His | Phe | Trp | Ser | Ser | Leu | Glu | Ile | Thr | Phe | Asn | Leu |      |
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| cga | gat | acc | aac | atg | atc | ccg | ggc | tcc | ccc | ggc | agt | acg | gag | tta | gag | 2700 |
| Arg | Asp | Thr | Asn | Met | Ile | Pro | Gly | Ser | Pro | Gly | Ser | Thr | Glu | Leu | Glu |      |
|     |     | 865 |     |     |     |     | 870 |     |     |     |     | 875 |     |     |     |      |
| ggg | ggc | ttc | agt | cgg | caa | cgc | aag | cgc | aag | ttg | tcc | ttc | cgc | agg | cgc | 2748 |
| Gly | Gly | Phe | Ser | Arg | Gln | Arg | Lys | Arg | Lys | Leu | Ser | Phe | Arg | Arg | Arg |      |
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| Thr | Asp | Lys | Asp | Thr | Glu | Gln | Pro | Gly | Glu | Val | Ser | Ala | Leu | Gly | Pro |      |
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| Gly | Arg | Ala | Gly | Ala | Gly | Pro | Ser | Ser | Arg | Gly | Arg | Pro | Gly | Gly | Pro |      |
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| Trp | Gly | Glu | Ser | Pro | Ser | Ser | Gly | Pro | Ser | Ser | Pro | Glu | Ser | Ser | Glu |      |
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 Glu Leu Pro Pro Gly Ala Pro Glu Leu Pro Gln Glu Gly Pro Thr Arg  
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cgc ctc tcc cta ccg ggc cag ctg ggg gcc ctc acc tcc cag ccc ctg 3516  
 Arg Leu Ser Leu Pro Gly Gln Leu Gly Ala Leu Thr Ser Gln Pro Leu  
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| Met | Pro | Val | Arg | Arg | Gly | His | Val | Ala | Pro | Gln | Asn | Thr | Phe | Leu | Asp |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Ile | Ile | Arg | Lys | Phe | Glu | Gly | Gln | Ser | Arg | Lys | Phe | Ile | Ile | Ala |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asn | Ala | Arg | Val | Glu | Asn | Cys | Ala | Val | Ile | Tyr | Cys | Asn | Asp | Gly | Phe |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Glu | Leu | Cys | Gly | Tyr | Ser | Arg | Ala | Glu | Val | Met | Gln | Arg | Pro | Cys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Thr | Cys | Asp | Phe | Leu | His | Gly | Pro | Arg | Thr | Gln | Arg | Arg | Ala | Ala | Ala |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gln | Ile | Ala | Gln | Ala | Leu | Leu | Gly | Ala | Glu | Glu | Arg | Lys | Val | Glu | Ile |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Phe | Tyr | Arg | Lys | Asp | Gly | Ser | Cys | Phe | Leu | Cys | Leu | Val | Asp | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Val | Pro | Val | Lys | Asn | Glu | Asp | Gly | Ala | Val | Ile | Met | Phe | Ile | Leu | Asn |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Phe | Glu | Val | Val | Met | Glu | Lys | Asp | Met | Val | Gly | Ser | Pro | Ala | His | Asp |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Thr | Asn | His | Arg | Gly | Pro | Pro | Thr | Ser | Trp | Leu | Ala | Pro | Gly | Arg | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Lys | Thr | Phe | Arg | Leu | Lys | Leu | Pro | Ala | Leu | Leu | Ala | Leu | Thr | Ala | Arg |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Glu | Ser | Ser | Val | Arg | Ser | Gly | Gly | Ala | Gly | Gly | Ala | Gly | Ala | Pro | Gly |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ala | Val | Val | Val | Asp | Val | Asp | Leu | Thr | Pro | Ala | Ala | Pro | Ser | Ser | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Leu | Ala | Leu | Asp | Glu | Val | Thr | Ala | Met | Asp | Asn | His | Val | Ala | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Leu | Gly | Pro | Ala | Glu | Glu | Arg | Arg | Ala | Leu | Val | Gly | Pro | Gly | Ser | Pro |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Pro | Arg | Ser | Ala | Pro | Gly | Gln | Leu | Pro | Ser | Pro | Arg | Ala | His | Ser | Leu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Asn | Pro | Asp | Ala | Ser | Gly | Ser | Ser | Cys | Ser | Leu | Ala | Arg | Thr | Arg | Ser |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Arg | Glu | Ser | Cys | Ala | Ser | Val | Arg | Arg | Ala | Ser | Ser | Ala | Asp | Asp | Ile |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Glu | Ala | Met | Arg | Ala | Gly | Val | Leu | Pro | Pro | Pro | Pro | Arg | His | Ala | Ser |
|     |     | 290 |     |     |     | 295 |     |     |     |     |     | 300 |     |     |     |

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 Asp Ser Asp Leu Val Arg Tyr Arg Thr Ile Ser Lys Ile Pro Gln Ile  
 325 330 335  
 Thr Leu Asn Phe Val Asp Leu Lys Gly Asp Pro Phe Leu Ala Ser Pro  
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 420 425 430  
 Leu Lys Glu Thr Glu Glu Gly Pro Pro Ala Thr Glu Cys Gly Tyr Ala  
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 Cys Gln Pro Leu Ala Val Val Asp Leu Ile Val Asp Ile Met Phe Ile  
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 Val Asp Ile Leu Ile Asn Phe Arg Thr Thr Tyr Val Asn Ala Asn Glu  
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 485 490 495  
 Trp Phe Leu Ile Asp Met Val Ala Ala Ile Pro Phe Asp Leu Leu Ile  
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 Phe Gly Ser Gly Ser Glu Glu Leu Ile Gly Leu Leu Lys Thr Ala Arg  
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 Tyr Gly Ala Ala Val Leu Phe Leu Leu Met Cys Thr Phe Ala Leu Ile  
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 Ala His Trp Leu Ala Cys Ile Trp Tyr Ala Ile Gly Asn Met Glu Gln  
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 Pro His Met Asp Ser Arg Ile Gly Trp Leu His Asn Leu Gly Asp Gln  
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 Ile Gly Lys Pro Tyr Asn Ser Ser Gly Leu Gly Gly Pro Ser Ile Lys  
 595 600 605  
 Asp Lys Tyr Val Thr Ala Leu Tyr Phe Thr Phe Ser Ser Leu Thr Ser  
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 Val Gly Phe Gly Asn Val Ser Pro Asn Thr Asn Ser Glu Lys Ile Phe  
 625 630 635 640



Ser Ile Cys Val Met Leu Ile Gly Ser Leu Met Tyr Ala Ser Ile Phe  
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 Gly Asn Val Ser Ala Ile Ile Gln Arg Leu Tyr Ser Gly Thr Ala Arg  
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 Tyr His Thr Gln Met Leu Arg Val Arg Glu Phe Ile Arg Phe His Gln  
 675 680 685  
 Ile Pro Asn Pro Leu Arg Gln Arg Leu Glu Glu Tyr Phe Gln His Ala  
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 Trp Ser Tyr Thr Asn Gly Ile Asp Met Asn Ala Val Leu Lys Gly Phe  
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 Pro Glu Cys Leu Gln Ala Asp Ile Cys Leu His Leu Asn Arg Ser Leu  
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 Leu Gln His Cys Lys Pro Phe Arg Gly Ala Thr Lys Gly Cys Leu Arg  
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 Ala Leu Ala Met Lys Phe Lys Thr Thr His Ala Pro Pro Gly Asp Thr  
 755 760 765  
 Leu Val His Ala Gly Asp Leu Leu Thr Ala Leu Tyr Phe Ile Ser Arg  
 770 775 780  
 Gly Ser Ile Glu Ile Leu Arg Gly Asp Val Val Val Ala Ile Leu Gly  
 785 790 795 800  
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 Ile His Arg Asp Asp Leu Leu Glu Val Leu Asp Met Tyr Pro Glu Phe  
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 Ser Asp His Phe Trp Ser Ser Leu Glu Ile Thr Phe Asn Leu Arg Asp  
 850 855 860  
 Thr Asn Met Ile Pro Gly Ser Pro Gly Ser Thr Glu Leu Glu Gly Gly  
 865 870 875 880  
 Phe Ser Arg Gln Arg Lys Arg Lys Leu Ser Phe Arg Arg Arg Thr Asp  
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 Lys Asp Thr Glu Gln Pro Gly Glu Val Ser Ala Leu Gly Pro Gly Arg  
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 Ala Gly Ala Gly Pro Ser Ser Arg Gly Arg Pro Gly Gly Pro Trp Gly  
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 Glu Ser Pro Ser Ser Gly Pro Ser Ser Pro Glu Ser Ser Glu Asp Glu  
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 Gly Pro Gly Arg Ser Ser Ser Pro Leu Arg Leu Val Pro Phe Ser Ser  
 945 950 955 960  
 Pro Arg Pro Pro Gly Glu Pro Pro Gly Gly Glu Pro Leu Met Glu Asp  
 965 970 975

Cys Glu Lys Ser Ser Asp Thr Cys Asn Pro Leu Ser Gly Ala Phe Ser  
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 Gly Val Ser Asn Ile Phe Ser Phe Trp Gly Asp Ser Arg Gly Arg Gln  
           995                                  1000                                  1005  
 Tyr Gln Glu Leu Pro Arg Cys Pro Ala Pro Thr Pro Ser Leu Leu Asn  
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 Ile Pro Leu Ser Ser Pro Gly Arg Arg Pro Arg Gly Asp Val Glu Ser  
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 Arg Leu Asp Ala Leu Gln Arg Gln Leu Asn Arg Leu Glu Thr Arg Leu  
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 Ser Ala Asp Met Ala Thr Val Leu Gln Leu Leu Gln Arg Gln Met Thr  
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 Thr Ser Thr Ser Pro Leu Leu Pro Val Ser Pro Leu Pro Thr Leu Thr  
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 Leu Asp Ser Leu Ser Gln Val Ser Gln Phe Met Ala Cys Glu Glu Leu  
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 Pro Pro Gly Ala Pro Glu Leu Pro Gln Glu Gly Pro Thr Arg Arg Leu  
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sequence for the example of calculating homology.

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Lys Glu

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<400> 106  
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       Ganetzky, 1994.

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<400> 111  
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